

PINEAPPLES AS A CATCH-CROP WITH YOUNG COCONUTS*

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IN the case of permanent crops, like coconuts, planters are burdened with the heavy cost of planting and of subsequent manuring and cultivation without any financial return for many years before the palms begin to bear. Some growers in Ceylon do grow a few catch-crops such as manioc, kurakkan, green gram, plantains and cowpea for their own consumption but no-one has yet properly developed the idea of interplanting pineapples among young coconuts on a commercial scale as a money crop.



PINEAPPLES
As a Catch-crop with Coconuts

The rubber industry was developed on Singapore Island on these lines, and it was on this basis that the Malayan pineapple canning industry was built up from small beginnings to reach ultimately an output of over 100,000,000 cans of fruit per annum, just before the war.

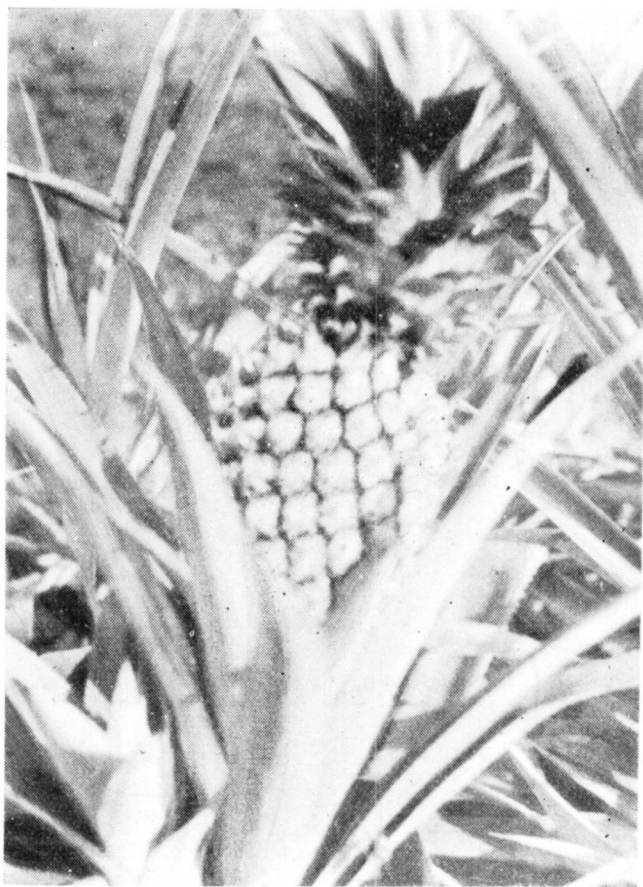
The growing of pineapples under fully-grown mature palms as, also under mature rubber, is however, to be strongly deprecated owing to excessive competition for light, air, moisture and plant food. Pineapples do not do at all well in shade and the few fruits produced are sour and useless, and the plants mostly vegetative.

* Compiled with assistance from "The Pineapple Industry of the Hawaiian Islands" by F. C. Cooke.

The pineapple is naturally suited to a dry climate and grows in any soil from sandy loam to lateritic gravel, providing the soil water can move ; but it does not like stagnant, water-logged, conditions. It can also thrive from sea-level up to about 3,000 feet elevation, while the optimum temperature for growth is between 60° and 90°F.

The common belief is that the pineapple is a soil exhaustor, but with cultivation and judicious manuring any depletion of the soil can be supplemented. From recent trials carried out on Bandirippuwa Estate, there is every indication that pineapples can be grown quite profitably, beside young coconut palms, without adversely affecting them.

There are three well-known varieties in Ceylon. The "Smooth Cayenne," used in Hawaii, is known here as the "Kew Pine." This is a large juicy fruit with yellowish flesh, often weighing from 10-14 lbs. or sometimes even more. This variety has the additional advantage of having



A MATURE KEW PINE

spineless leaves which facilitate cultivation and harvesting. The "Mauritius" or "Ripley Queen" in Ceylon is a small fruit with saw-edged leaves and is of two types : (a) reddish yellow, and (b) yellow, when ripe. The Rock Pineapple (Galannasi) is a wild variety bearing very small yellowish fruit and is of no economic value.

Propagation may be done from crowns, from suckers, (the shoot that develops in the axil of the leaves of the parent plant) and from the basal slips, which sometimes appear at the base of the fruit. Slips and suckers are the normal propagating material. They are detached from the mother plant before they get too big, otherwise they sap energy from the parent plant. It is necessary they should be selected from strong mature plants. Selected suckers should have the lower leaves trimmed off to a length of two inches or more. They are then collected and taken to a storage ground, where they are closely stacked with butts up, to mature until required. This is done to prevent rotting of the soft callus which might occur if the suckers were planted at once, without being properly cured. A curing or drying period of at least a week or more is necessary.

In addition to shoots and suckers, the original mother plants also produce from underground suckers one or more subsidiary or ratoon plants which will give the next year's crop. Ratoons come up from below ground and establish their own root systems. They are usually allowed to stay in position and replace the parent plant as ratoons are not vigorous and get a set-back, it transplanted.

Planting should be done only when wet weather is expected. The beginning of September to the end of October is considered to be the best period for planting in Ceylon, so that the mature fruits can ripen during the hot dry season as this gives the best-flavoured fruit.

At Bandirippuwa Estate, the pineapples were planted according to the style adopted at Hawaii the largest pineapple-growing centre in the world. The plant beds were prepared, running lengthwise between the rows of young palms; they were three feet broad, and three feet wide lanes were allowed between the beds. Thus three beds were opened between every two rows of palms, so leaving a reasonable margin for the cultivation and manuring of the young palms. The beds were made of a convenient length.

The suckers were arranged according to the following system :—

- | | | | | | |
|--------------------------------------|-----|-----|-----|-----|--------|
| (1) Number of planting lines per bed | ... | ... | ... | ... | 2 |
| (2) Distance between planting lines | ... | ... | ... | ... | 2 feet |
| (3) Plant intervals in the lines | ... | ... | ... | ... | 1 foot |

A mulch of well-seasoned coir dust was applied to each bed to maintain soil moisture during droughts at the optimum for plant growth. It was also meant to control weeds and other vegetable growth, but in this it was only partially successful, and kajangs are being tried instead.

The principal limiting factor in pineapple cultivation is weeding. It is difficult to weed pineapples by hand because of the serrated or sharp edges of the leaves which are liable to produce septic wounds. If weeding is neglected, the plants will soon be submerged under the weeds and become stunted, yellow and unproductive. It is for this reason that pineapples in Ceylon are generally planted in single lines to facilitate hand-weeding, otherwise special weeding tools have to be used. In Hawaii, weeds are entirely suppressed by the use of a layer of tarpaper mulch which covers the bed, and the lanes between the beds are regularly sprayed with weedicides. This gives total control.

Contour-planting is an important requisite as a soil and moisture conservation measure. In steep and medium slope lands, parallel planting in lines strictly following the contour is recommended. Planting can also be done in double rows along contour bunds between palms. They will also serve as a buffer against erosion.

It takes from 18 to 20 months for the plants to come into bearing. Cropping may be spread over the greater part of the year except that, during the wet season, fruits are few and, during the dry season, there is a period of heavy cropping. The fruits vary in size from 4 to 15 lbs. and in the first or plant crop there should be one fruit per plant. There should not be more than 10 per cent. of non-bearing plants. Subsequently, smaller fruits are produced from the ratoon plants in the following year or years.

The following figures, giving the details of the cost of planting, as described above, were supplied by the Superintendent of Bandirippuwa Estate :—

Pineapple Catch-crop

Date of Planting : late March, 1950

					Total cost		Cost per sucker
					Rs.	Cts.	Cts.
Cost of 3,727 suckers, including trimming and curing					...	188 80	...
Clearing and levelling ground					...	157 86	...
Preparation of beds					...	102 33	...
Planting and watering					...	73 42	...
Application of coir dust mulch					...	38 42	...
Weeding					...	121 86	...
*Manuring					...	55 75	...
Total					...	738 44	20

* After 6 months : 30 lbs of ammonium sulphate per 1000 suckers.

After 12 months : 50 lbs of NPK-mixture 2 : 1 : 2

The crop may be utilised variously accordingly to circumstances. The fruits may either be sold retail in village markets or sent to wholesale dealers in the Municipal Markets in Colombo, or they may be canned, but this requires special equipment and technical knowledge. The Marketing Department has now established three canneries, one at Walpita Farm, near Negombo and the others at Gampaha and Colombo. Information regarding equipment for canning may be obtained from the Metal Box Co. (India) Ltd., Bombay.